

Claims

1. A device for separating an imbricated formation (2) of printing products (1) having a format height (H) continuously conveyed in a feed direction (F) while partially overlapping in an imbricated manner, into a succession of spaced printing products (1), comprising:
- 5 a first conveyor (3) for said imbricated formation driven at a first velocity (v1);
- a second conveyor (4) for said spaced products arranged after said first conveyor (3) and driven at a second velocity (v2) which is higher in
- 10 relation to the first velocity; and
- a de-imbricating device (5, 6) for accelerating the leading printing product (1) of the imbricated formation (2) of the first conveyor to the second velocity (v2) and for maintaining the imbricated arrangement of the following printing products (1) being conveyed in the imbricated formation (2) at the
- 15 first velocity (v1);
- wherein the de-imbricating device includes
- two suction belt conveyors (5, 6) with associated belt deflectors, arranged one behind the other between the first and second conveyors (3, 4), the first suction belt conveyor (5) driven at the first velocity
- 20 (v1), the second suction belt conveyor (6) driven at the second velocity (v2);
- the first suction belt conveyor (5) having a suction field (7) which is displaceable along the feed direction (F) with respect to the format height (H) of the printing products (1); and
- the second suction belt conveyor (6) having a suction field (8)
- 25 which is arranged at the start of the second suction belt conveyor (6) directly after the belt deflector (14) of the second suction conveyor (6), as seen in the feed direction (F).

2. Device according to Claim 1, wherein the suction field (7) of the first suction belt conveyor (5) has a length that is adjustable along the feed direction (F).

5 3. Device according to Claim 1, wherein the conveyor belts (9, 10) of the suction belt conveyors (5, 6) are provided with apertures (19) distributed evenly over the full length of the conveyor belts (9,10) and substantially centrally of the width of the belts.

10 4. Device according to Claim 3, wherein the apertures (19) in the conveyor belts (9, 10) widen toward the side of the belt that faces the printing product to form pockets to enlarge the suction area acting on the printing product.

15 5. Device according to Claim 1, including means for supplying the suction fields (7, 8) of the suction belt conveyors (5, 6) continuously with a partial vacuum while separating the printing products (1).

20 6. Device according to Claim 5, wherein the means for supplying a partial vacuum comprises a side channel compressor (21) having an intake (21a) that is fluidly connected to the suction fields (7, 8).

25 7. Device according to Claim 1, wherein the first suction belt conveyor (5) is adjustably positionable transversely to the feed direction (F), relative to the first conveyor (3).

8. Device according to Claim 1, wherein the second suction belt conveyor (6) is adjustably positionable transversely to the feed direction (F), relative to the first suction belt conveyor (5).

9. Device according to Claim 1, wherein the suction belt conveyors (5, 6) are equipped with lateral guide rails (17, 18) for aligning the imbricated formation (2) fed by the first conveyor (3) and for aligning the separated printing products (1).

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10. Device according to Claim 2, wherein the conveyor belts (9, 10) of the suction belt conveyors (5, 6) are provided with apertures (19) distributed evenly over the full length of the conveyor belts (9,10) and substantially centrally of the width of the belts.

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11. Device according to Claim 10, wherein the apertures (19) in the conveyor belts (9, 10) widen toward the outside of the belt to form pockets to enlarge the suction area acting on the printing product.

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12. Device according to Claim 2, wherein the first suction belt conveyor (5) is adjustably positionable transversely to the feed direction (F), relative to the first conveyor (3).

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13. Device according to Claim 12, wherein the second suction belt conveyor (6) is adjustably positionable transversely to the feed direction (F), relative to the first section belt conveyor (5).

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14. Device according to Claim 3, including means for supplying the suction fields (7, 8) of the suction belt conveyors (5, 6) continuously with a partial vacuum while separating the printing products (1).

15. Device according to Claim 14, wherein the means for supplying a partial vacuum comprises a side channel compressor (21) having an intake (21a) that is fluidly connected to the suction fields (7, 8).